REMARKS

Examiner Telephone Conference

The applicant thanks the Examiner for his telephone conference of June 30, 2009. The Examiner indicated that upon initial review, the above proposed amendments would overcome the rejections based upon the cited references, but would require the formal submission of the amendments before he could commit to allowance. The applicant respectfully submits that the above amendments are consistent with those proposed to the Examiner.

Claim Objections

The applicant respectfully submits that the claim amendments have cured the Office Objection to claim 14.

Claims Rejections - 35 USC §102(b)

The Office rejected claims 1 -8, 13, 15-19, 23-24 under 35 U.S.C. 102(b) as being anticipated by US Pre-Grant Publication No. 2002/0121501 of Choquette *et al*. A rejection based on anticipation requires that a single reference teach every element of the claim (MPEP § 2131). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Or stated in another way, a "claim is anticipated only if each and every element as set forth in the claim is found, . . . described in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). . . .

In contrast to the claimed invention, the plasma of the '501 reference is generated by an RF coil 22 placed above a quartz window 30. The RF coil is placed centrally and extends across the top of the apparatus upon the external side of the window 30. This induces a plasma within the funnel 28. It is notable in the discussion of the prior art within the '501 reference, in paragraph [0017] that "The plasma generated has a relatively high and uniform ion density through the entire interior of the funnel 28, that is, the active plasma extends through the entire interior of the funnel 28".

Furthermore, in [0018] the'501 reference discloses that in the prior art "the active plasma extends from the region where the gas is introduced into the chamber all the way down to the wafer surface". In this context the '501 reference seeks to improve upon the prior art by containing the plasma in the upper part of the chamber by virtue of a separator 102 , illustrated in Figure 4 or a separator 108 illustrated in Figure 6. Simply put, the '501 reference describes an active plasma that extends across the apparatus despite being constrained vertically by the separator. The purpose of the plasma generator in '501 reference should not be overlooked. Its purpose is to strip photoresist material from a substrate (see [0017]), whilst at the same time reducing the "drive in" of sodium.

In contrast, one aim of the present invention is to achieve higher processing rates of the substrate in comparison with known techniques, without losing uniformity of the treatment process.

There are, therefore, fundamental reasons why a person of ordinary skill in the art would not arrive at the claimed invention in the light of the '501 reference. Specifically, the '501 reference teaches away from the present invention in that the '501 reference teaches the existence of a uniform active plasma throughout the upper part of the chamber. This is completely opposite to the effect sought in the present claimed invention. Furthermore, the '501 reference does not seek to improve processing rates; quite the opposite in fact. The '501 reference specifically mentions the effect of the separator is to "slow down the downward flow of ionized gases" (see [0019]). Thus '501 reference neither provides any teaching or motivation to cause the person of ordinary skill to arrive at the present claimed invention.

The applicant respectfully submits that the claimed invention, as amended, is patentably distinct from the cited reference. The applicant therefore respectfully requests that the Office withdraw its rejection of claims 1 -8, 13, 15, 16, 18, 19, 23-24.

The Office has rejected claims 1-2, 18, 21-22 as unpatentable under 35 USC 102(e) in light of US Publication No. 2003/0201069 of Johnson et al. The applicant respectfully disagrees with the Office's rejection. The applicant has however amended claims 1 and 25 and respectfully submits that these amendments clarify the claimed invention, and in so doing highlight the distinction between the claimed invention and the cited '069 reference.

The applicant submits that in contrast to the claimed invention, the '069 reference is concerned with improving process uniformity upon a substrate by virtue of a focus ring to which RF power is applied. A plasma is induced by applying an RF signal to opposing electrodes (140 in the upper part of the chamber and 175 beneath the substrate). The invention in the '069 reference focuses upon the focus ring 200 around the periphery of the substrate to which an RF signal is applied. It is noted that in the prior art description of the present application a clear distinction is made between the operation of a focus ring and the guide as claimed. The amendments to the independent claim 1 further distinguish over '069 reference since the amended claims make it clear that a particular RF coil form is used to generate the active plasma within the plasma generation region. The teaching of the '069 reference would not motivate a person of ordinary skill in the art to arrive at the present invention since the '069 reference is concerned with the use of a focus ring to control the uniformity at the edge of a substrate for plasmas generated between plate electrodes. Both the '069 reference and the '501 reference, lack any disclosure concerning the use of an RF coil to generate an active plasma in the plasma generation region which lies between the chamber wall (proximal to the coil) and a first width (distal to the coil). Since there is no teaching in this regard and since the purpose of the '069 reference's invention is not to improve process rates, the person of ordinary skill is absent the essential teaching and the motivation to modify the apparatus of the '069 reference to arrive at the claimed invention.

Claim Rejections – 35 USC § 103

The Office has quoted the statute from 35 USC 103(a), which is referenced herein. The Office has rejected claims 9-12, 14, 20, 20, 32, 39 as being unpatentable over the '501 reference or the '069 reference in view of various other references. Applicant has carefully considered the Office rejections and respectfully submits that the amended claims, as supported by the arguments herein, are distinguishable from the cited reference.

According to the MPEP §2143.01, "[o]bviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found in either the references themselves or in the knowledge generally available to one of ordinary skill in the art."

A useful presentation for the proper standard for determining obviousness under 35 USC §103(a) can be illustrated as follows:

1. Determining the scope and contents of the prior art;
2. Ascertaining the differences between the prior art and the claims at issue;
3. Resolving the level of ordinary skill in the pertinent art; and
4. Considering objective evidence present in the application indicating obviousness or unobviousness.

The applicant respectfully submits that the above claims, as dependant from claims 1 and 25, incorporate the elements of those claims. As discussed at length above, the cited references fail to disclose the elements of the claimed invention as amended in claims 1 and 25. The Office, correctly does not allege that the cited US Pat Nos. 5,962,083 of Hatanaka et al., 6,257,168 of Ni et al., 6,059,985 of Yoshimura et al., and 6,635,85 of Demmin et al. supply the elements of the amended claims that are addressed at such length above. Further, the applicant respectfully submits that the cited '501 and '069 references would not have been modified by one skilled in the art, since, as noted above, modification of the '501 and '069 reference would frustrate the objects of the cited references. The cited references therefore effectively teach away from the proposed modifications.

Therefore, at least for the forgoing reasons, the applicant respectfully submits that the claimed invention is not unpatentable in light of the cited references, as the cited references, either alone or in combination fail to disclose the claimed invention. The applicant therefore respectfully requests that the Office withdraw its rejection of claims 9-12, 14, 20, 20, 32, and 39.

Applicant believes the above amendments and remarks to be fully responsive to the Office Action, thereby placing this application in condition for allowance. No new matter is added. Applicant requests speedy reconsideration, and further requests that Examiner contact its attorney by telephone, facsimile, or email for quickest resolution, if there are any remaining issues.

Respectfully submitted,

/Andrew P. Cernota, Reg. No. 52,711/

Vernon C. Maine, Reg. No. 37,389
Andrew P. Cernota, Reg. No. 52,711
David A. Rardin, Reg. No. 52,153
Attorneys/Agents for Applicant

Cus. No. 24222
Vern Maine & Associates
PO Box 3445
Nashua, NH 03061-3445
Tel. No. (603) 886-6100, Fax. No. (603) 886-4796
patents@vernmaine.com